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Title: METHOD FOR MANUFACTURING BETULINIC ACID

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## **IN THE CLAIMS**

(Previously Presented) A process for preparing a compound of formula III 1.

comprising:

(1) acylating a compound of formula I

to provide a corresponding compound of formula II

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$$R_1$$

wherein  $R_1$  and  $R_2$  are each independently ( $C_1$ - $C_{10}$ )alkyl, ( $C_2$ - $C_{10}$ )alkenyl, ( $C_2$ - $C_{10}$ )alkynyl, or ( $C_6$ - $C_{10}$ )aryl, wherein any alkyl, alkenyl, alkynyl, or aryl of  $R_1$  and  $R_2$  can be optionally substituted with one or more halo, nitro, cyano, trifluoromethyl, hydroxy, SR or NRR, wherein each R is independently H or ( $C_1$ - $C_{10}$ )alkyl; and

- (2) alcoholyzing a compound of formula II to provide a corresponding compound of formula III.
- 2. (Original) The process of claim 1 wherein the acylating comprises heating to reflux in acetic acid and acetic anhydride for about 2 hours to about 5 hours.
- 3. (Original) The process of claim 1 wherein the acylating comprises heating in pyridine and benzoyl chloride at about 50°C to about 60°C for about 20 hours to about 30 hours.
- 4. (Original) The process of claim 1 wherein the alcoholyzing comprises heating in the presence of an aluminum alkoxide and an anhydrous alcohol.
- 5. (Previously Presented) The process of claim 4 wherein the aluminum alkoxide is aluminum isopropoxide.

- 6. (Previously Presented) The process of claim 4 wherein the alcohol is isopropanol.
- 7. (Previously Presented) The process of claim 1 wherein the acylating is carried out employing an acid anhydride, a carboxylic acid, or an acid chloride.
- 8. (Previously Presented) The process of claim 1 wherein the acylating is carried out employing acetic anhydride, benzoyl anhydride, maleic anhydride, phtalic anhydride, succinic anhydride, acetic acid, benzoic acid, acetyl chloride, pentanoyl chloride, or benzoyl chloride.
- 9. (Original) The process of claim 1 further comprising oxidizing the compound of formula III to provide a compound of formula VI

10. (Original) The process of claim 9 further comprising oxidizing the compound of formula VI to provide a compound of formula IV

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11. (Original) The process of claim 10 further comprising deprotecting the compound of formula IV to provide a compound of formula V

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## 12. (Previously Presented) A process for preparing the compound of formula V

comprising:

## (1) acylating a compound of formula I

to provide a corresponding compound of formula II

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$$R_1$$

wherein  $R_1$  and  $R_2$  are each independently ( $C_1$ - $C_{10}$ )alkyl, ( $C_2$ - $C_{10}$ )alkenyl, ( $C_2$ - $C_{10}$ )alkynyl, or ( $C_6$ - $C_{10}$ )aryl, wherein any alkyl, alkenyl, alkynyl, or aryl of  $R_1$  and  $R_2$  can be optionally substituted with one or more halo, nitro, cyano, trifluoromethyl, hydroxy, SR or NRR, wherein each R is independently H or ( $C_1$ - $C_{10}$ )alkyl;

(2) alcoholyzing a compound of formula II to provide a corresponding compound of formula III;

(3) oxidizing the compound of formula III to provide a corresponding compound of formula VI;

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VI

(4) oxidizing the compound of formula VI to provide a compound of formula IV; and

(5) deprotecting the compound of formula IV to provide the compound of formula V.

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- 13. (Previously Presented) The process of claim 12 wherein the alcoholyzing is carried out for about 0.5 hours to about 5 hours.
- 14. (Original) The process of claim 12 wherein the alcoholyzing comprises heating the compound of formula II in the presence of an aluminum alkoxide and an anhydrous alcohol.
- 15. (Original) The process of claim 14 wherein the aluminum alkoxide is aluminum isopropoxide.
- 16. (Original) The process of claim 14 wherein the alcohol is isopropanol.
- 17. (Original) The process of claim 12 wherein the acylating comprises heating to reflux in acetic acid and acetic anhydride for about 2 hours to about 5 hours.
- 18. (Original) The process of claim 12 wherein the acylating comprises heating in pyridine and benzoyl chloride at about 50°C to about 60°C for about 20 hours to about 30 hours.

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- 19. (Original) The process of claim 12 wherein the oxidizing of compound III to compound VI comprises palladium acetate, molecular sieves, and oxygen in trifluoromethylbenzene and pyridine at about 80°C to about 85°C for about 0.5 hour to about 4 hours.
- 20. (Original) The process of claim 12 wherein the oxidizing of compound VI to compound IV comprises oxygen and Cobalt (III) acetylacetonate in trifluoromethylbenzene at 60-65°C for about 0.5 hour to about 2 hours.
- 21. (Original) The process of claim 12 wherein the deprotecting comprises heating to reflux in methanol, water and sodium hydroxide.
- 22. (Previously Presented) A process for preparing a compound of formula III

comprising: alcoholyzing a corresponding compound of formula II

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$$R_1$$

wherein  $R_1$  and  $R_2$  are each independently ( $C_1$ - $C_{10}$ )alkyl, ( $C_2$ - $C_{10}$ )alkenyl, ( $C_2$ - $C_{10}$ )alkynyl, or ( $C_6$ - $C_{10}$ )aryl, wherein any alkyl, alkenyl, alkynyl, or aryl of  $R_1$  and  $R_2$  can be optionally substituted with one or more halo, nitro, cyano, trifluoromethyl, hydroxy, SR or NRR, wherein each R is independently H or ( $C_1$ - $C_{10}$ )alkyl; to provide the compound of formula III.